



Williamson County, TN Draft School Fees

August 24, 2016

Bethesda, MD | 301.320.6900
Bradenton, FL | 443.280.0723

TischlerBise.com



Williamson County School Fee Logistics

- Demand Factor: Student Generation Rates
 - Two Options
 - Option 1: Unit Type (Single Family vs. Multifamily)
 - Option 2: By Bedroom Number/By Unit Size
- Fee categories: K-8 (Elem. + Middle) and 9-12 (High)
 - Development in FSSD boundary only charged 9-12 component, as FSSD does not have 9-12 facilities
 - Therefore, the FSSD will not be due a portion of the impact fee revenue



Eligible Costs

- Facilities/improvements required to serve new development - **Yes**
- Maintenance and repairs – **No**
- Operating costs - **No**
- Excess capacity in existing facilities – **Yes**

Student Generation Rates



Generation Rate: by Type of Unit

Grades	Public School Students		
	Single Family	Multifamily	Total
K-8	241	11	252
9-12	97	3	100
	Grand Total		352

Housing Units		
Single Family	Multifamily	Total
668	51	719

Grades	Public School Students		
	Single Family	Multifamily	Total
K-8	22,842	1,884	24,726
9-12	9,194	514	9,708
	TOTAL		34,434

Housing Units		
Single Family	Multifamily	Total
63,313	8,736	72,049

Total Williamson County Enrollment (Fall 2013)
26,545
11,166
37,711

Source: Cross tabulation by TischlerBise using U. S. Census Bureau 2013 ACS One-Year Public Use Microdata Sample.

Source: TischlerBise using U. S. Census Bureau 2013 ACS One-Year PUMS data for public school students and table B25024 for housing units.

Step 2: Unadjusted Student Generation Rates

Public School Students per Housing Unit

Grades	Type		Weighted Average
	Single Family	Multifamily	
K-8	0.36	0.22	0.35
9-12	0.15	0.06	0.14
TOTAL	0.51	0.27	0.49

Source: TischlerBise using U. S. Census Bureau 2013 ACS One-Year Public Use Microdata Sample.

Student Generation Rates

Williamson County, TN

Public School Students per Housing Unit

Grades	Type		Weighted Average
	Single Family	Multifamily	
K-8	0.387	0.232	0.368
9-12	0.167	0.068	0.155
TOTAL	0.554	0.299	0.523

Source: TischlerBise using U. S. Census Bureau 2013 ACS One-Year Public Use Microdata Sample.
(calibrated to 2013 enrollment and housing units)

<= Step 4: Adjusted SGR

2013 enrollment data is used to tailor 2013 U.S. Census bureau for region to Williamson County Schools

Generation Rate: Bedroom Size ACS Data

Public School Students by Bedroom Range					
Williamson County 2013 PUMS Survey Results					
Bedroom Range	Grades K-8 Students (1)	Housing Units (1)	Housing Mix	Unadjusted Students/HU	Adjusted Students/HU (2)
two or less	9	97	13.5%	0.09	0.097
three	62	259	36.0%	0.24	0.251
four or more	181	363	50.5%	0.50	0.524
Total	252	719		0.35	0.368
Bedroom Range	Grades 9-12 Students (1)	Housing Units (1)	Housing Mix	Unadjusted Students/HU	Adjusted Students/HU (2)
two or less	6	97	13.5%	0.06	0.069
three	22	259	36.0%	0.08	0.095
four or more	72	363	50.5%	0.20	0.221
Total	100	719		0.14	0.155

(1) American Community Survey, Public Use Microdata Sample for TN PUMA 2600 (2013 One-Year unweighted data).

(2) Adjusted multipliers are scaled to make the average PUMS values match control totals based on 2013 Williamson County total Fall enrollment and housing unit estimates from ACS table B25024.

DIV	6
METRO	
BedroomRange	Average of SQFS
four or more	3,438
three	1,967
two	1,264
Grand Total	2,537

Source: Survey of Construction Microdata, U.S. Census Bureau, 2013.

Square feet of single detached and attached units constructed in 2013. Count of authorization date is the sample size.

Metro value 1 means within MSA

Metro value 2 means outside MSA

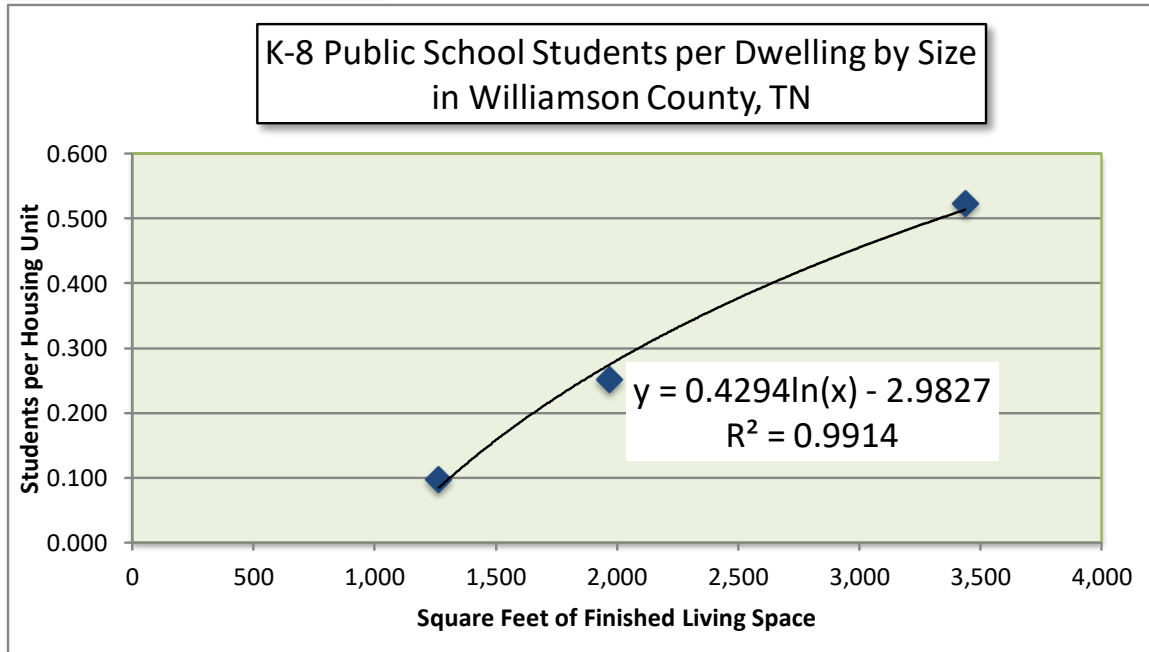
Division codes

- 1 = New England
- 2 = Middle Atlantic
- 3 = East North Central
- 4 = West North Central
- 5 = South Atlantic
- 6 = East South Central
- 7 = West South Central
- 8 = Mountain
- 9 = Pacific

Generation Rate: K-8 by Bedroom Size

Average dwelling size by bedroom range is from 2013 Survey of Construction Microdata, U.S. Census Bureau. Average students per housing unit by bedroom range are derived from 2013 1-Year ACS PUMS data for TN PUMA 2600 (Williamson County).

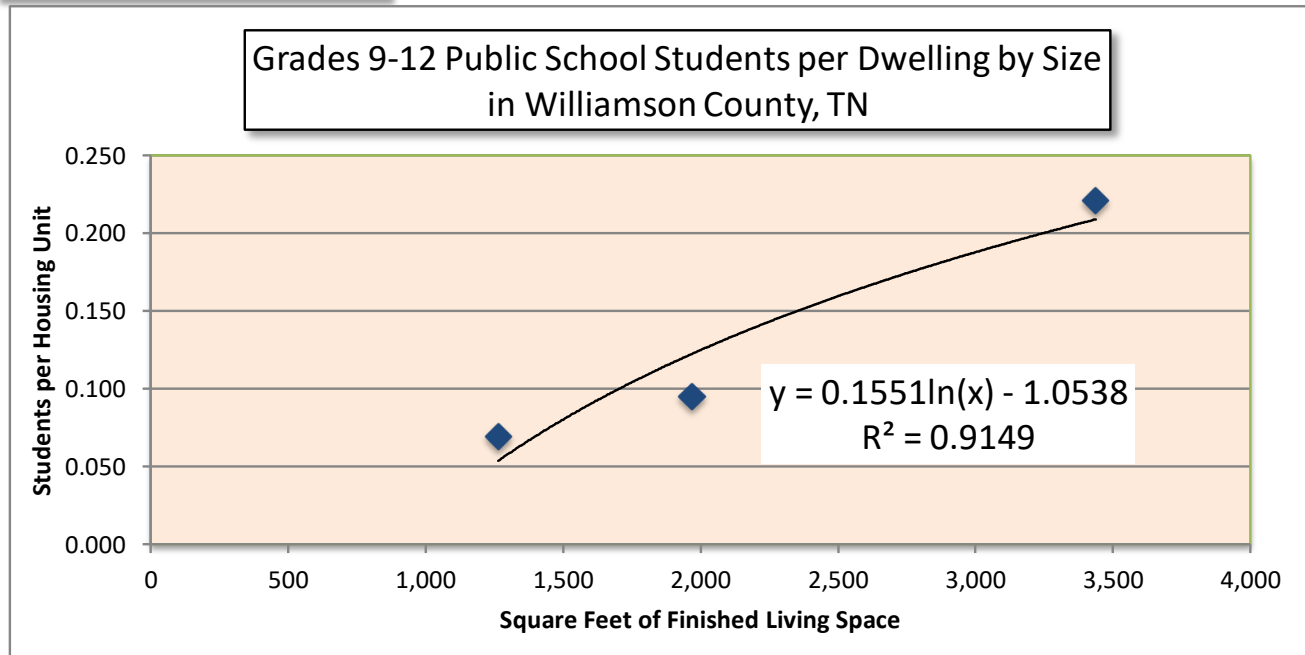
Actual Averages per Hsg Unit			Fitted-Curve Values	
Bedrooms	Square Feet	K-8 Students	Sq Ft Example	K-8 Students
two or less	1,264	0.097	1,400	0.128
three	1,967	0.251	1,900	0.259
four or more	3,438	0.524	2,400	0.359
			2,900	0.441
			3,400	0.509
			3,900	0.568



Generation Rate: 9-12 by Bedroom Size

Average dwelling size by bedroom range is from 2013 Survey of Construction Microdata, U.S. Census Bureau. Average students per housing unit by bedroom range are derived from 2013 1-Year ACS PUMS data for TN PUMA 2600 (Williamson County).

Actual Averages per Hsg Unit			Fitted-Curve Values	
Bedrooms	Square Feet	9-12 Students	Sq Ft Example	9-12 Students
two or less	1,264	0.069	1,400	0.070
three	1,967	0.095	1,900	0.117
four or more	3,438	0.221	2,400	0.153
			2,900	0.183
			3,400	0.207
			3,900	0.229



Enrollment Projections

Enrollment Projections [1]

	Current [2]	2016-17	2017-18	2018-19	2019-20	2020-21	Total Change	Annual Growth Rate
Elementary and Middle	24,340	25,410	26,859	28,412	30,096	31,910		6.2%
Net Change		1,070	1,449	1,553	1,684	1,814	7,570	
High	12,031	12,701	13,328	14,001	14,724	15,499		5.8%
Net Change		670	627	673	723	775	3,468	
Total	36,371	38,111	40,187	42,413	44,820	47,409		6.1%
Net Change		1,740	2,076	2,226	2,407	2,589	11,038	

[1] Williamson County Schools projections

[2] Actual enrollment from April 6, 2016

LOS and Cost Projections



K-8 Schools LOS

ELEMENTARY AND MIDDLE SCHOOLS (Grades K-8) Inventory, Enrollment, and Utilization					
Facility	Site Acreage	Building Square Footage	Permanent Capacity	Enrollment (4/6/2016) [1]	Utilization
Allendale ES	25.00	118,000	890	932	105%
Bethesda ES	22.00	84,102	780	610	78%
Brentwood MS	25.00	119,395	1,105	1,226	111%
Chapman's Retreat ES	20.00	86,600	805	730	91%
Clovercroft ES	22.72	118,000	890	783	88%
College Grove ES	20.00	48,150	460	394	86%
Crockett ES [2]	15.16	93,182	870	687	79%
Edmondson ES	20.00	85,221	825	809	98%
Fairview ES	11.50	58,581	715	447	63%
Fairview MS	10.00	99,112	764	538	70%
Grassland ES	25.00	90,000	870	527	61%
Grassland MS	32.00	139,820	1,160	911	79%
Heritage ES	30.00	82,000	805	675	84%
Heritage MS	41.00	118,000	1,185	1,053	89%
Hillsboro EMS	37.00	113,152	597	567	95%
Hunters Bend ES	20.00	68,625	780	524	67%
Kenrose ES	20.00	92,048	910	934	103%
Lipscomb ES	26.00	78,435	780	764	98%
Longview ES	21.00	121,000	890	803	90%
Mill Creek EMS [3]	45.52	234,000	1,600	0	0%
Nolensville ES	16.90	118,000	890	984	111%
Oak View ES	20.00	73,800	695	713	103%
Page MS	25.00	118,500	1,052	1,128	107%
Pearre Creek ES	14.00	118,000	890	706	79%
Scales ES	25.00	65,095	715	824	115%
Spring Station MS	35.00	137,200	971	1,051	108%
Sunset ES [4]	33.00	97,144	805	803	100%
Sunset MS [4]	40.36	118,806	869	920	106%
Trinity ES	21.00	86,661	870	684	79%
Walnut Grove ES	19.00	97,474	780	663	85%
Westwood ES	22.00	86,805	805	569	71%
Winstead ES	22.90	84,310	890	482	54%
Woodland MS [2]	17.44	107,200	975	899	92%
Total	800.50	3,356,418	28,888	24,340	84%

Elementary and Middle School Levels of Service

	Demand Units (Permanent Capacity)	Site Acreage	Building Square Footage
LOS per Student based on Capacity	28,888	0.028	116.19

[1] Does not include PK/EC

[2] Shared campus. Acreage is derived as a percentage of shared campus building square footage devoted to each school level.

[3] Slated to open in Fall 2016. Located on same land as Nolensville High; acreage derived as a percentage of square footage.

[4] Shared campus. Acreage is derived as a percentage of shared campus building square footage devoted to each school level.

9-12 Schools LOS

HIGH SCHOOLS (Grades 9-12) Inventory, Enrollment, and Utilization

<i>Facility</i>	<i>Site Acreage</i>	<i>Building Square Footage</i>	<i>Permanent Capacity</i>	<i>Enrollment (4/6/2016) [1]</i>	<i>Utilization</i>
Brentwood HS	32.00	215,892	1,628	1,755	108%
Centennial HS	55.00	244,500	1,758	1,657	94%
Fairview HS	34.00	166,300	1,042	690	66%
Franklin HS	39.40	255,535	1,584	1,766	111%
Independence HS	83.55	253,482	1,671	1,546	93%
Nolensville HS [2]	50.48	259,495	1,800	0	0%
Page HS	40.00	187,550	1,215	1,043	86%
Ravenwood HS	80.00	253,482	1,649	2,104	128%
Renaissance HS	1.72	17,000	150	151	101%
Summit HS	71.73	259,000	1,671	1,319	79%
Total	487.87	2,112,236	14,168	12,031	85%

High School Levels of Service

	<i>Demand Units (Permanent Capacity)</i>	<i>Site Acreage</i>	<i>Building Square Footage</i>
LOS per Student based on Capacity	14,168	0.034	149.08

[1] Does not include EC

[2] Slated to open in Fall 2016. Located on same land as Mill Creek EMS; acreage derived as a percentage of square footage.



Land Costs

Facility	Year	Acreage	Cost	Cost per Acre
Allendale Elementary	2010	25.00	\$1,133,711	\$45,348
Spring Station Middle	2010	35.00	\$1,750,685	\$50,020
Clovercroft Elementary	2011	22.70	\$1,230,209	\$54,194
Summit High	2011	71.70	\$4,400,694	\$61,376
Nolensville High and Mill Creek Elementary and Middle [1]	2013	96.00	\$4,010,577	\$41,777
Thompson's Station Elementary and Middle [2]	2016	46.86	\$3,926,514	\$83,792
<i>Total</i>		297.26	\$16,452,390	\$55,346.80

[1] Slated to open in Fall 2016

[2] Slated to open in Fall 2018

Construction Costs

Facility	Year	Square Footage	Cost	Cost per Square Foot	Cost Adjustment Factor [2]	Adjusted Cost	Adjusted Cost per Square Foot
Allendale Elementary	2010	118,000	\$13,943,404	\$118.16	1.21	\$16,927,537	\$143.45
Spring Station Middle	2010	137,200	\$21,336,066	\$155.51	1.21	\$25,902,358	\$188.79
Clovercroft Elementary	2011	118,000	\$15,261,675	\$129.34	1.19	\$18,231,311	\$154.50
[1]	2016	234,000	\$34,140,875	\$145.90	1.00	\$34,140,875	\$145.90
<i>Total</i>		<i>607,200</i>	<i>\$84,682,020</i>	<i>\$139.46</i>		<i>\$95,202,081</i>	\$156.79
Summit High	2011	259,000	\$33,422,520	\$129.04	1.19	\$39,925,917	\$154.15
Nolensville High [1]	2016	259,495	\$46,640,476	\$179.74	1.00	\$46,640,476	\$179.74
<i>Total</i>		<i>518,495</i>	<i>\$80,062,996</i>	<i>\$154.41</i>		<i>\$86,566,393</i>	\$166.96

[1] Slated to open in Fall 2016

[2] Adjusted using the Turner Building Cost Index, 1st Quarter 2015

Operations/Support LOS and Costs

Facility	Square Footage
Operations Support Bldg.	28,012
Textbook Bldg.	8,871
Transportation	13,674
Equipment Shed.	6,116
<i>Total</i>	<i>56,673</i>
Cost per sq. ft.*	\$165
Total Replacement Cost	\$9,351,045
Enrollment (4/6/2016)	36,371
Square Feet per Student	1.56
Cost per Student	\$257.10

**Provided by County Staff*

Bus LOS and Costs

Type	Units	Unit Cost	Total
Regular	223	\$78,500	\$17,505,500
Special Education	40	\$89,800	\$3,592,000
<i>Total</i>	263		\$21,097,500
<i>Average</i>		\$80,219	
Enrollment (4/6/2016)			36,371
Buses per Student			0.007
Cost Per Student			\$580.06

Credit for Offsetting Revenue K-8

Year	Principal and Interest	Projected Enrollment [1]	Payment per Student
2017	\$23,796,211	38,111	\$624.39
2018	\$24,481,258	40,187	\$609.18
2019	\$23,324,632	42,413	\$549.94
2020	\$21,512,658	44,820	\$479.98
2021	\$21,378,358	47,409	\$450.93
2022	\$21,557,034	49,617	\$413.31
2023	\$20,506,884	51,824	\$391.09
2024	\$20,268,037	54,032	\$375.11
2025	\$19,548,499	56,239	\$347.59
2026	\$17,281,367	58,447	\$295.68
2027	\$15,457,835	60,655	\$254.85
2028	\$13,440,524	62,862	\$213.81
2029	\$11,762,359	65,070	\$180.77
2030	\$10,026,375	67,277	\$149.03
2031	\$8,221,563	69,485	\$118.32
2032	\$8,208,394	71,693	\$114.49
2033	\$8,244,525	73,900	\$111.56
2034	\$8,228,375	76,108	\$108.11
2035	\$2,016,900	78,315	\$25.75
2036	\$1,004,250	80,523	\$12.47
Total	\$300,266,035		\$5,826.39
		Discount Rate [2]	2.32%
		Net Present Value	\$5,006.94

[1] Enrollment beyond SY 2020-21 projected using expected annual growth rates from SY 2015-16 and SY 2020-21

[2] Interest rate at which the District has recently issued debt (Series 2016B)

Credit for Offsetting Revenue High School

Year	Principal and Interest	Projected Enrollment [1]	Payment per Student
2017	\$18,368,903	38,111	\$481.98
2018	\$19,033,739	40,187	\$473.63
2019	\$18,900,155	42,413	\$445.62
2020	\$18,656,245	44,820	\$416.25
2021	\$15,975,645	47,409	\$336.97
2022	\$13,172,667	49,617	\$265.49
2023	\$13,122,573	51,824	\$253.21
2024	\$12,842,056	54,032	\$237.68
2025	\$12,031,862	56,239	\$213.94
2026	\$10,703,566	58,447	\$183.13
2027	\$10,218,350	60,655	\$168.47
2028	\$9,959,740	62,862	\$158.44
2029	\$9,270,651	65,070	\$142.47
2030	\$8,791,169	67,277	\$130.67
2031	\$6,605,079	69,485	\$95.06
2032	\$6,587,470	71,693	\$91.88
2033	\$6,591,669	73,900	\$89.20
2034	\$6,579,913	76,108	\$86.46
2035	\$1,345,500	78,315	\$17.18
Total	\$218,756,948		\$4,287.73
		Discount Rate [2]	2.32%
		Net Present Value	\$3,696.15

[1] Enrollment beyond SY 2020-21 projected using expected annual growth rates from SY 2015-16 and SY 2020-21

[2] Interest rate at which the District has recently issued debt (Series 2016B)

Fee Level of Service Inputs

Current Level of Service Standards		
	<i>K-8</i>	<i>9-12</i>
Square Feet per Student	116.19	149.08
Cost per Sq. Ft.	\$156.79	\$166.96
Building Construction Cost per Student	\$18,216.85	\$24,890.79
Acres per Student	0.028	0.034
Cost per Acre	\$55,346.80	\$55,346.80
Land Cost per Student	\$1,533.69	\$1,905.87
Operations/Support Facilities per Student (Sq. Ft.)	1.56	1.56
Cost per Sq. Ft.	\$165.00	\$165.00
Operations/Support Facility Cost per Student	\$257.10	\$257.10
Buses/Vehicles per Student	0.007	0.007
Weighted Average Cost per Bus/Vehicle	\$80,218.63	\$80,218.63
Bus/Vehicle Cost per Student	\$580.06	\$580.06
Total Gross Cost Per Student	\$20,587.70	\$27,633.82
Credit for Offsetting Revenue per Student	(\$5,006.94)	(\$3,696.15)
Total Net Capital Cost per Student	\$15,580.76	\$23,937.67

Fee Schedules



WCS Fees: Option 1 (No Unit Size Variation)

INPUT VARIABLES: Williamson Co. Schools Impact Fees			
<i>Public School Students per Housing Unit</i>	School Level		
	<i>K-8</i>	<i>9-12</i>	<i>Total</i>
Dwelling Unit Type			
Single Family	0.387	0.167	0.554
Multifamily	0.232	0.068	0.299
Cost Factors			
Total Net Local Capital Cost per Student	\$15,580.76	\$23,937.67	
MAXIMUM ALLOWABLE SCHOOL IMPACT FEES: Williamson Co. Schools			
<i>Impact Fee per Housing Unit*</i>	<i>K-8</i>	<i>9-12</i>	<i>TOTAL</i>
Dwelling Unit Type			
Single Family	\$6,035	\$3,998	\$10,033
Multifamily	\$3,608	\$1,620	\$5,227

**Fees do not apply to age-restricted units*

WCS Fees: Option 2 (Fees by Size of House)

INPUT VARIABLES: Williamson Co. Schools Impact Fees				
Public School Students per Housing Unit		School Level		
		K-8	9-12	Total
Dwelling Unit Size				
1,399 square feet or less		0.128	0.070	0.198
1,400 - 1,899 square feet		0.259	0.117	0.376
1,900 - 2,399 square feet		0.359	0.153	0.512
2,400 - 2,899 square feet		0.441	0.183	0.624
2,900 - 3,399 square feet		0.509	0.207	0.716
3,400 square feet or more		0.568	0.229	0.797
Cost Factors				
Total Net Local Capital Cost per Student		\$15,580.76	\$23,937.67	
MAXIMUM ALLOWABLE SCHOOL IMPACT FEES: Williamson Co. Schools				
Impact Fee per Housing Unit*		K-8	9-12	TOTAL
Dwelling Unit Size				
1,399 square feet or less		\$1,994	\$1,676	\$3,670
1,400 - 1,899 square feet		\$4,035	\$2,801	\$6,836
1,900 - 2,399 square feet		\$5,593	\$3,662	\$9,256
2,400 - 2,899 square feet		\$6,871	\$4,381	\$11,252
2,900 - 3,399 square feet		\$7,931	\$4,955	\$12,886
3,400 square feet or more		\$8,850	\$5,482	\$14,332

FSSD for Grades 9-12: Option 1(No Unit Size Variation)

INPUT VARIABLES: Williamson Co. Schools Impact Fees

(within Franklin Special School District boundaries)

Public School Students per Housing Unit *School Level*

9-12

Dwelling Unit Type

Single Family

0.167

Multifamily

0.068

Cost Factors

Total Net Local Capital Cost per Student **\$23,937.67**

MAXIMUM ALLOWABLE SCHOOL IMPACT FEES: Williamson Co. Schools

(within Franklin Special School District boundaries)

*Impact Fee per Housing Unit** *School Level*

9-12

Dwelling Unit Type

Single Family

\$3,998

Multifamily

\$1,620

**Fees do not apply to age-restricted units*

FSSD for Grades 9-12: Option 2 (Fees by Size of House)

INPUT VARIABLES: Williamson Co. Schools Impact Fees (within Franklin Special School District boundaries)	
Public School Students per Housing Unit	School Level
	9-12
Dwelling Unit Size	
1,399 square feet or less	0.070
1,400 - 1,899 square feet	0.117
1,900 - 2,399 square feet	0.153
2,400 - 2,899 square feet	0.183
2,900 - 3,399 square feet	0.207
3,400 square feet or more	0.229
Cost Factors	
Total Net Local Capital Cost per Student	\$23,937.67
MAXIMUM ALLOWABLE SCHOOL IMPACT FEES: Williamson Co. Schools (within Franklin Special School District boundaries)	
Impact Fee per Housing Unit*	School Level
	9-12
Dwelling Unit Size	
1,399 square feet or less	\$1,676
1,400 - 1,899 square feet	\$2,801
1,900 - 2,399 square feet	\$3,662
2,400 - 2,899 square feet	\$4,381
2,900 - 3,399 square feet	\$4,955
3,400 square feet or more	\$5,482

**Fees do not apply to age-restricted units*